

**DESCRIPTION**

Model 8559-B and 8559-5 pumps are air-operated, high-pressure pumps designed to pump light to heavy lubricants directly from the original 400 lb. drum. Both models come with a bung adapter, a female air coupler and a male adapter. Model 8559-5 also comes with two hose assemblies and a female union.

The air motors in these pumps are packed with lubricant at the factory and require no further lubrication or adjustment.

This sheet also covers all of the older versions of the Series 8559 pumps which used the select-fit parts. Since many of the parts are no longer available, if repair is needed, these pumps must be converted to use the new seal design. The information required to make these changes is covered in the Maintenance Section and Figure 7.

**AIR-MOTOR SERVICE**

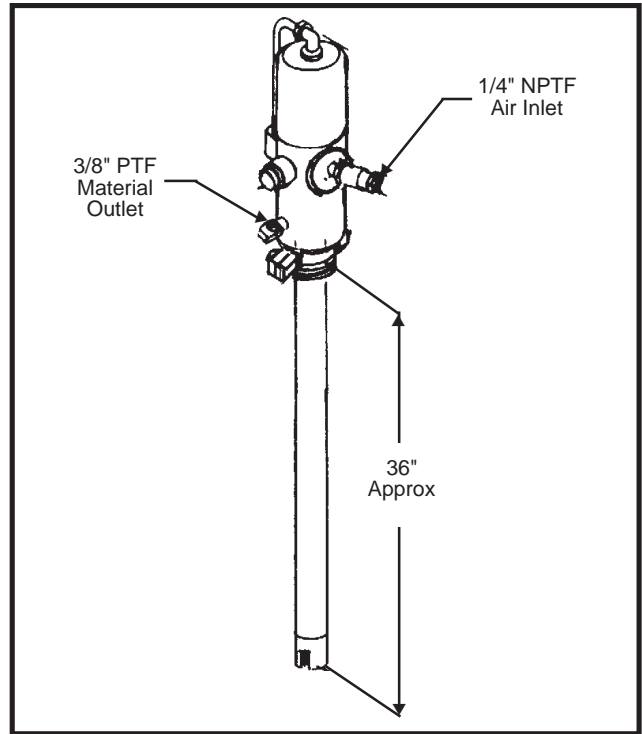
**For Service on air motor  
refer to SER 324300-5**

**SPECIFICATIONS**

Ratio .....	50:1
Air Motor Piston Diameter .....	2-7/16"
Maximum Operating Air Pressure .....	150 psi.
Maximum Operating Material Pressure .....	7500 psi.
Air Inlet .....	1/4" NPTF
Material Outlet .....	3/8" NPTF
Container Size .....	400 lb. Drum

**GENERAL SAFETY REQUIREMENTS**

Because these units incorporate a high-pressure



*Figure 1: Model 8559-B Pump*

pumping system, these safety precautions should be followed at all times.

1. DO NOT exceed the pressure rating of any component in the system. Make sure that the hose pressure tolerance exceeds the pump-pressure rating.
2. Never install a low-pressure air hose in any part of the pump's distribution system.
3. Protect all material and supply lines from damage or puncture. Keep all lines and hoses away from hot machinery, moving parts and cramped areas where damage may occur from flexing or twisting.
4. Check hoses for wear or damage prior to daily operation. Make sure that all connections and fittings are secure.
5. Shut down system and relieve all pressures before servicing any component in the system.

FOR FURTHER SERVICE, CONTACT YOUR LOCAL ALEMITE DISTRIBUTION CENTER



**ALEMITE CORPORATION**  
**PO BOX 473515 CHARLOTTE NC 28247-3515**

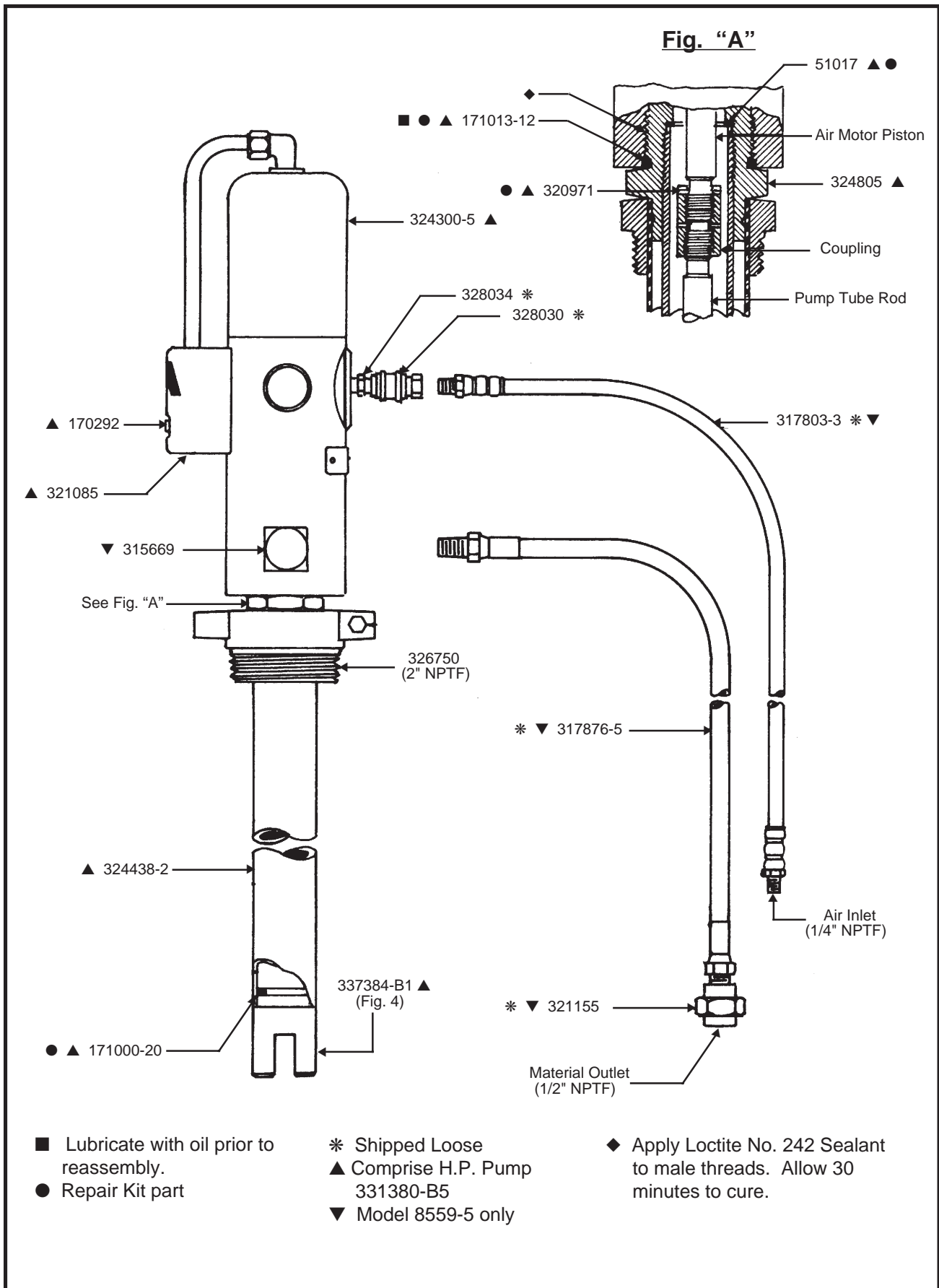


Figure 2: Models 8559-B & 8559-5 High-Pressure Pumps

6. Never point the dispensing system at anyone as accidental discharge can result in serious injury.
7. Read all instruction sheets and any other explanatory material before attempting to install, service or operate the system.



DO NOT use Halogenated Hydrocarbon Solvents, such as methylene chloride or 1,1,1-trichloroethane, in this pump. An explosion can result when aluminum or zinc-plated parts within an enclosed device capable of containing pressure come in contact with Halogenated Hydrocarbon Solvents.

**DO NOT TAKE ANY CHANCES! CONSULT YOUR MATERIAL SUPPLIER TO BE SURE.**

The use of pressure relief devices or chemical "stabilizers" WILL NOT provide the necessary safety to eliminate the explosion hazard!

**ACCESSORIES**

- Follower Assembly.....322444-4
- Cover Assembly.....318040-4

**INSTALLATION**

1. Loosen the bung-adapter screw and slide bung adapter 326750 off the pump.
2. Screw the bung adapter into the bung hole of the drum or the drum cover (not furnished).
3. Slide the pump through the bung adapter and tighten the screw.
4. Attach the male adapter 328034 to the air inlet of the air motor.

Model 8559-B:

5. Attach female air coupler 328030 to air hose.
6. Connect the air-hose to the male adapter.
7. Connect the air coupler to the male adapter.
8. Connect a material hose to the material outlet of the pump.
9. Connect a control valve to the hose.

Model 8559-5:

5. Attach the female air coupler 328030 to air hose assembly 317803-3 and connect the air-hose assembly to the air supply.
6. Connect the air coupler to the male adapter.
7. Attach one end of the material hose assembly 317876-5 to adapter 315669 on the pump.
8. Connect the other end of the hose assembly to female union 321155.
9. Screw the female union to the main lubricant line.

**SETUP AND OPERATION**

**NOTE:** If the distribution system is newly installed, be sure to flush with product before attaching the control valve.

1. Place the follower plate (if used) on the lubricant and work down in a wobbling motion to remove the air. Push down until lubricant comes through the center of the follower.
2. Insert the pump tube into the follower and lower the pump onto the drum.
3. Slowly increase the air pressure until the pump starts cycling. Use an air-pressure regulator to control the pump speed.
4. Open the material control valve.
5. Allow the pump to continue cycling until all of the air has been purged from the system.
6. Close the material control valve. The pump should stall.
7. Increase the air pressure as necessary (maximum of 150 PSI).
8. Inspect the system for leaks.

If the pump does not prime, follow these steps:

9. Reduce the air pressure to zero and open the material control valve to relieve any material pressure that may have developed.
10. Loosen or disconnect the material hose from the pump outlet.

**CAUTION:** Significant residual pressure can remain in long distribution systems. Loosen the hose connection slowly to relieve pressure.

11. Slowly increase the air pressure until the pump starts cycling.
12. When grease starts to flow from the material outlet, reduce the air pressure to zero. Then retighten or reconnect the material hose to the pump outlet.
13. Repeat steps 3-8.

**AIRLINE ACCESSORIES:**

An air filter/moisture separator (such as the 5604-2) should be used. Wet air can wash out the lubricant in the motor.

An air-pressure regulator (such as the SM-7604-B regulator with a gauge) should be used to provide safe, regulated air pressure.

Although the air motor is lubricated at the factory, the pump life can be extended by using an airline oiler (such as the 5904-2).

**MAINTENANCE**

If pump fails to operate properly, check for:

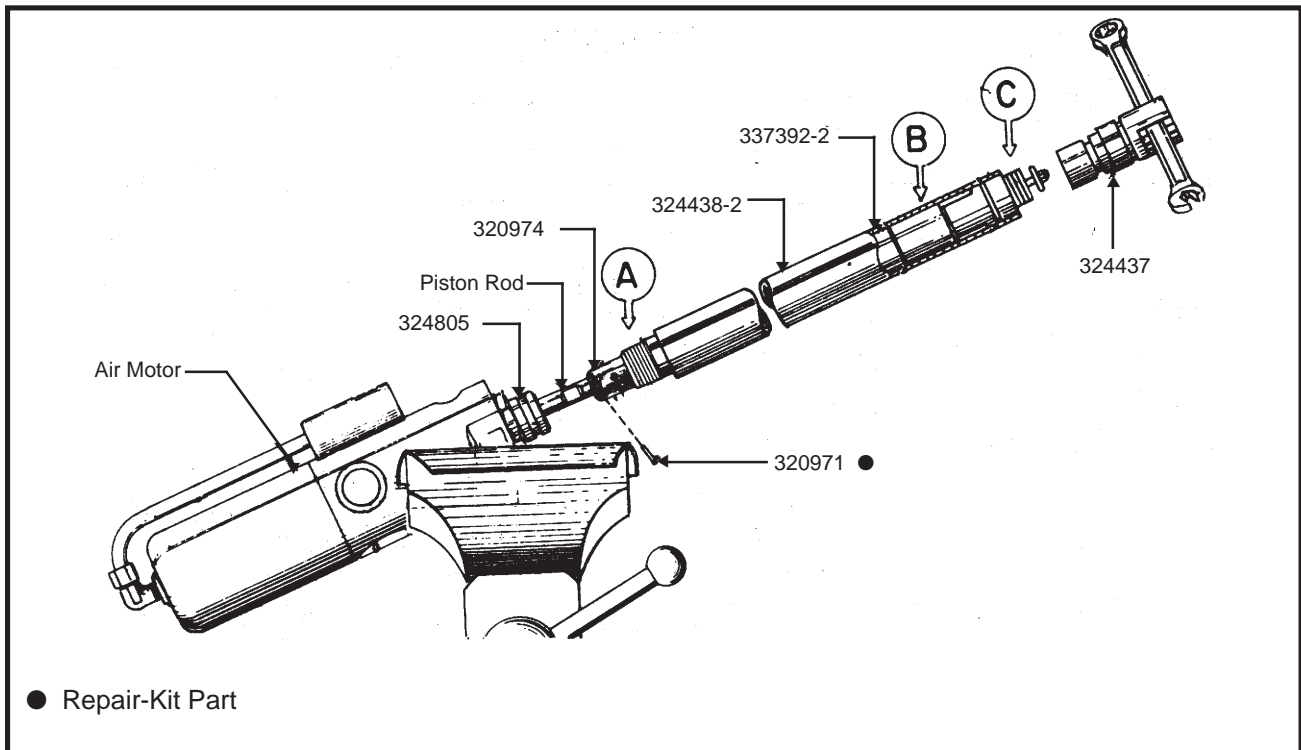
1. Adequate air pressure-Increase to within limit.

2. Sufficient lubricant in container-Check.
3. Loose fitting connections-Tighten,
4. Worn packings or clogged check valve-Refer to "DISASSEMBLY"
5. Inoperative air motor-Refer to Instruction sheet SER 324300-5.

In the early eighties, Alemite reengineered their complete lubricant pump line. The precision select fit parts and the flat duck and rubber packings (Old Style) were eliminated in favor of Urethane and Buna-N Seals (New Style). These new style seals are now used in both the air-motor base and the pump tube.

The most distinguishable feature between the old and new styles is the shape of the toggle caps (2) on the air motor. The old style caps are straight and are sealed with aluminum crush gaskets. The new style caps are enlarged at the base and are sealed with "O" rings.

When an old-style pump is repaired, a conversion kit must be used to replace the old parts and seals with the new ones, as the old parts are no longer available. Order Kit 393516 for this modification. This kit contains the Urethane and Buna-N Seals, etc. The upper pump tube (337392-2) must also be ordered and used to complete the conversion to the new-style pump (See Figure 7).



**Figure 3:** Disengaging Air Motor From Tube Assembly 337384-B1

**DISASSEMBLY:**

**CAUTION:** Make certain supply and material pressures are relieved before attempting to service any component of system. Disconnect all lines and hoses.

1. Disconnect air supply line and lubricant line from pump assembly.

Separate Air Motor from Tube-and-Rod Assembly as follows: (See Figure 3).

1. Place Air Motor in vise.

2. Insert tool or steel bar into slot in Primer Body 324437 and twist counter clockwise.

3. Pump Tube Assembly 337384-B1 will loosen at one of three junctions: (See Figure 3).

A. If Pump Tube Assembly loosens at "A", pull Pump Tube down to expose Coupling 320974. Tap Pin 320971 out of Coupling using appropriate size punch and unscrew Coupling from Air Motor Piston Rod. **DO NOT LOSE PIN.**

B. If Pump Tube Assembly loosens at "B", continue to loosen and pull lower section of pump tube in direction away from air motor.

- a. Retighten lower section of Pump Tube finger tight.
- b. Insert pin or nail in hole "D" (See Figure 4) of Primer Rod 330329. Holding Rod, remove Elastic Stop Nut 320712 and Washer 320713.
- c. Unscrew lower section of Pump Tube and remove. Slide off Follower Tube 324438-2.
- d. Unscrew remaining section of Pump Tube 337392-2 from Adapter 324805 to expose Coupling 320974. Tap Pin 320971 out of Coupling using appropriate size punch. Unscrew Coupling from Air Motor Piston Rod. **DO NOT LOSE PIN.** (See Figure 3).

C. If Pump Tube Assembly loosens at "C", unscrew Primer Body 324437 and slide off Follower Tube 324438-2.

- a. Unscrew remaining section of Pump Tube 337392-2 from Adapter 324805 to expose Coupling 320974.
- b. Tap Pin 320971 out of Coupling 320974

using appropriate size punch and unscrew Coupling from Air Motor Piston Rod. **DO NOT LOSE PIN.** (See Figure 3).

**NOTE:** If Air Motor requires servicing, refer to Instruction Sheet SER 324300-5 for procedure and parts list.

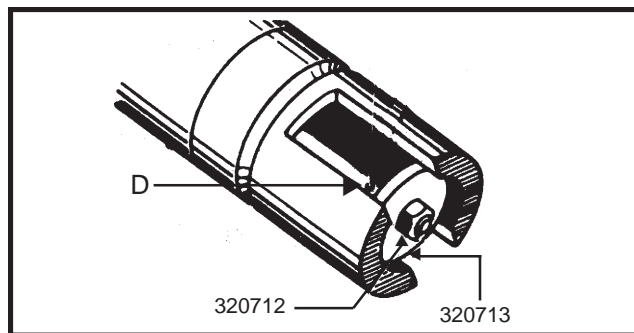
**Servicing Pump Tube Assembly:**  
(Figure 5)

**NOTE:** These instructions are written based upon the disassembly of the new style pump tube. Essentially the information is also applicable to the old style tubes.

The following is a description of the procedure to disassemble Pump Tube Assembly 337384-B1. Some operations may have been performed while separating Piston and Tube Assembly from Air Motor.

**CAUTION:** Make certain supply and material pressures are relieved before attempting to service any component of system. Disconnect all lines and hoses.

1. Separate Pump Tube Assembly from Air Motor according to procedure recommended above.
2. Loosen Locknut 320712 and remove along with Washer 320713 from Primer Rod 330329. Rod may be held with pin or nail through hole "D" (See Figure 4).
3. Unscrew Primer Body 324437 from Extension 337388 and remove. Slip "O" Ring 171000-20 from around Primer Body.
4. Unscrew Extension 337388 from Retainer 337391 and remove Gasket 330334.
5. Remove Pin 131168 from Piston 330332 freeing Primer Rod 330329. Rod may be removed along with Stop Washer 317549, Valve Body 337995, Aluminum Gasket 51017 and Valve Seat 320716.



**Figure 4:** Removing Locknut and Washer

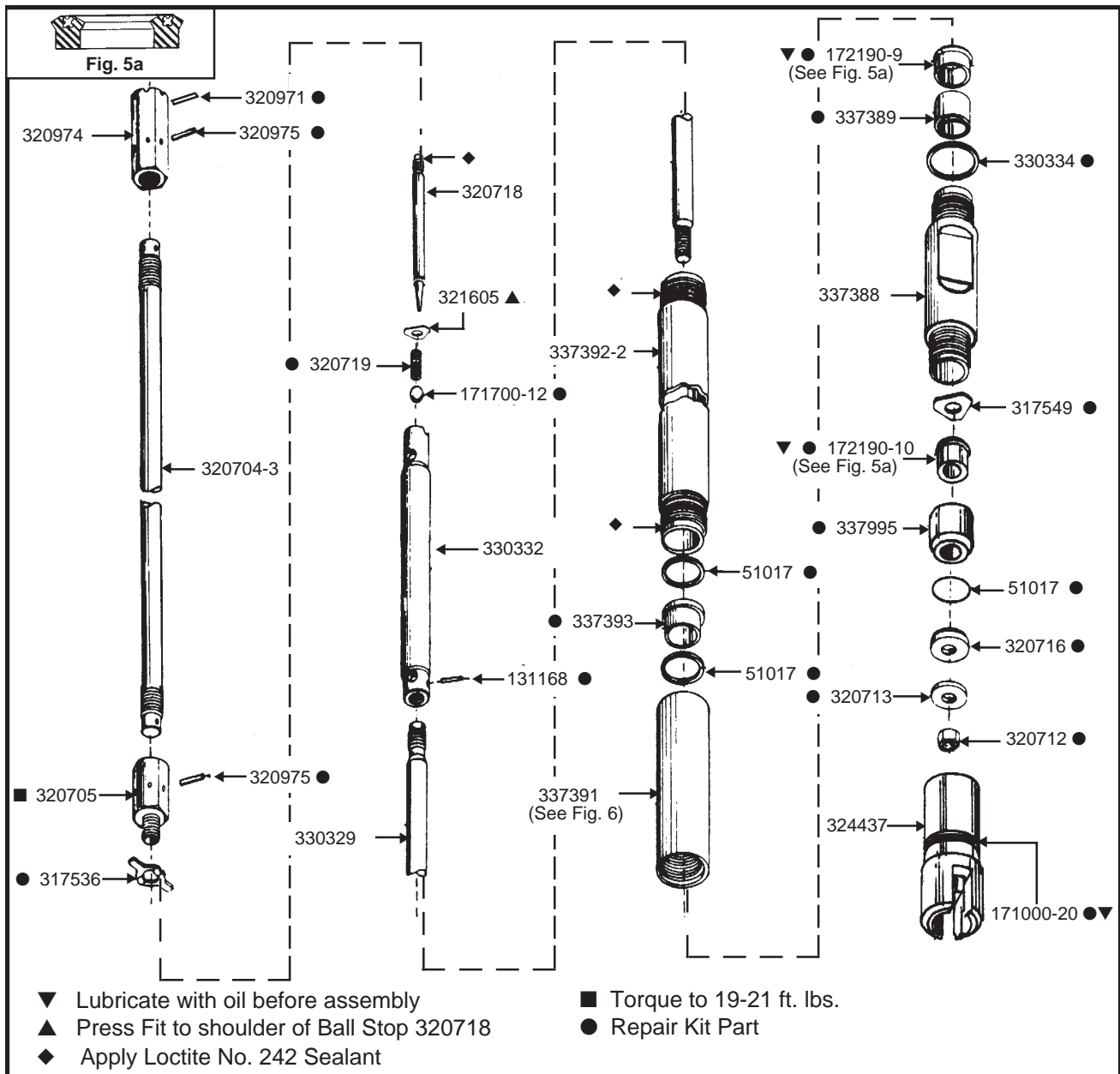


Figure 5: Reassembly of Pump Tube 337384-B1

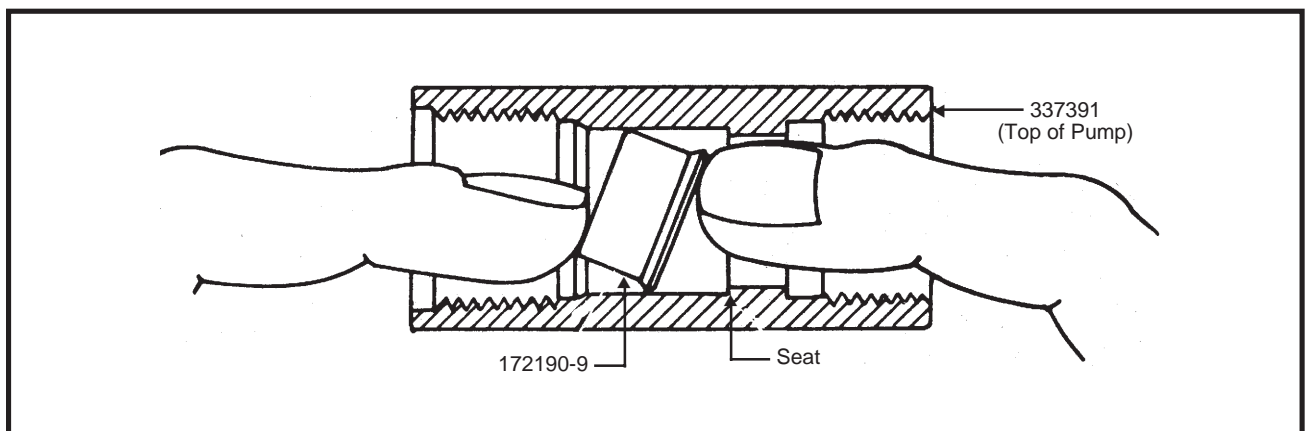


Figure 6: Installation of Seal 172190-9

6. Unscrew Retainer 337391 from Tube 337392-2.
7. From inside of Retainer, remove Bearing 337389, Seal 172190-9, Bearing 337393 and two Aluminum Gaskets 51017.
8. Pull Piston 330332 with attached parts from inside of Tube 337392-2.
9. Straighten lugs of Locking Washer 317536 from around Coupling 320705. Unscrew coupling and attached Ball Stop 320718 and Triangular-Guide Washer 321605 from Piston and remove Locking Washer.
10. From inside of Piston 330332, remove Spring 320719 and Ball 171700-12.
11. Remove Pin 320975 from Coupling 320705 and unscrew Coupling from Rod 320704-3.
12. Remove Pin 320975 from Coupling 320974 and unscrew Rod 320704-3 from Coupling.
13. Remove adapter 324805 from the bottom of the air motor and remove "O" Ring 171013-12 from the adapter (Figure 3).

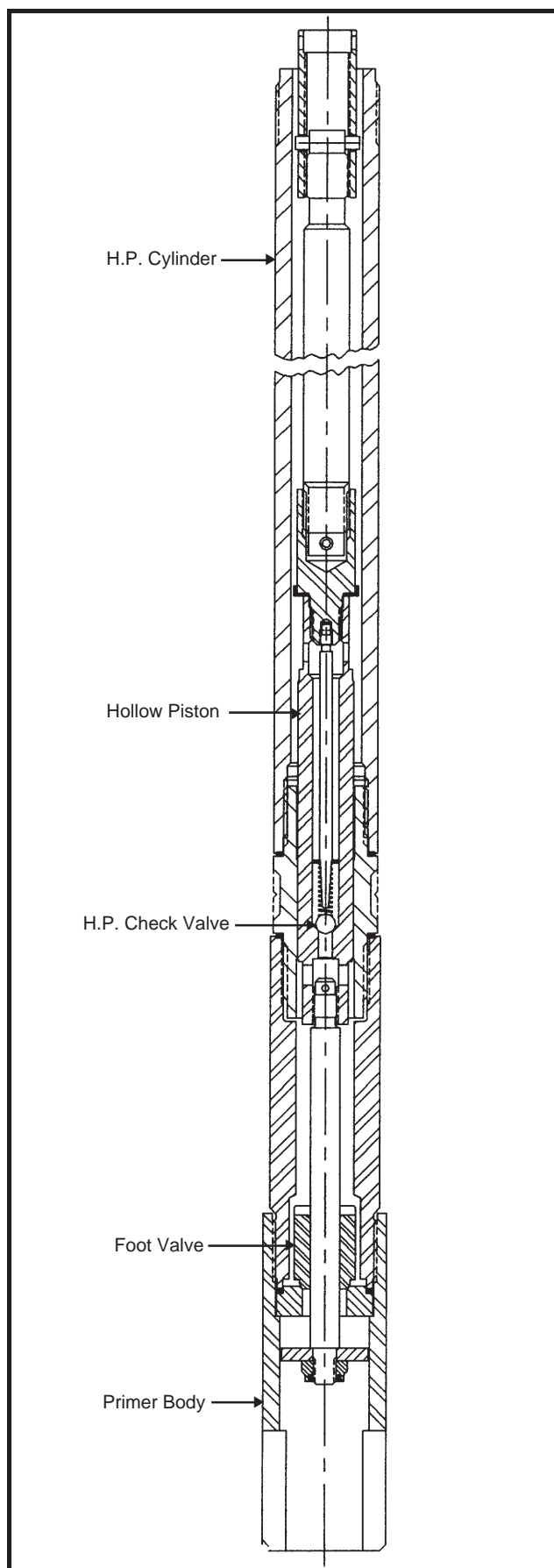
Pump Tube is now fully dismantled. Clean and inspect all parts for wear or damage.

**CAUTION:** Worn or damaged parts present a hazard to person and property. Replace all such parts.

#### REASSEMBLY OF PUMP TUBE (FIGURE 5)

The following steps for reassembly of Pump Tube should be followed carefully:

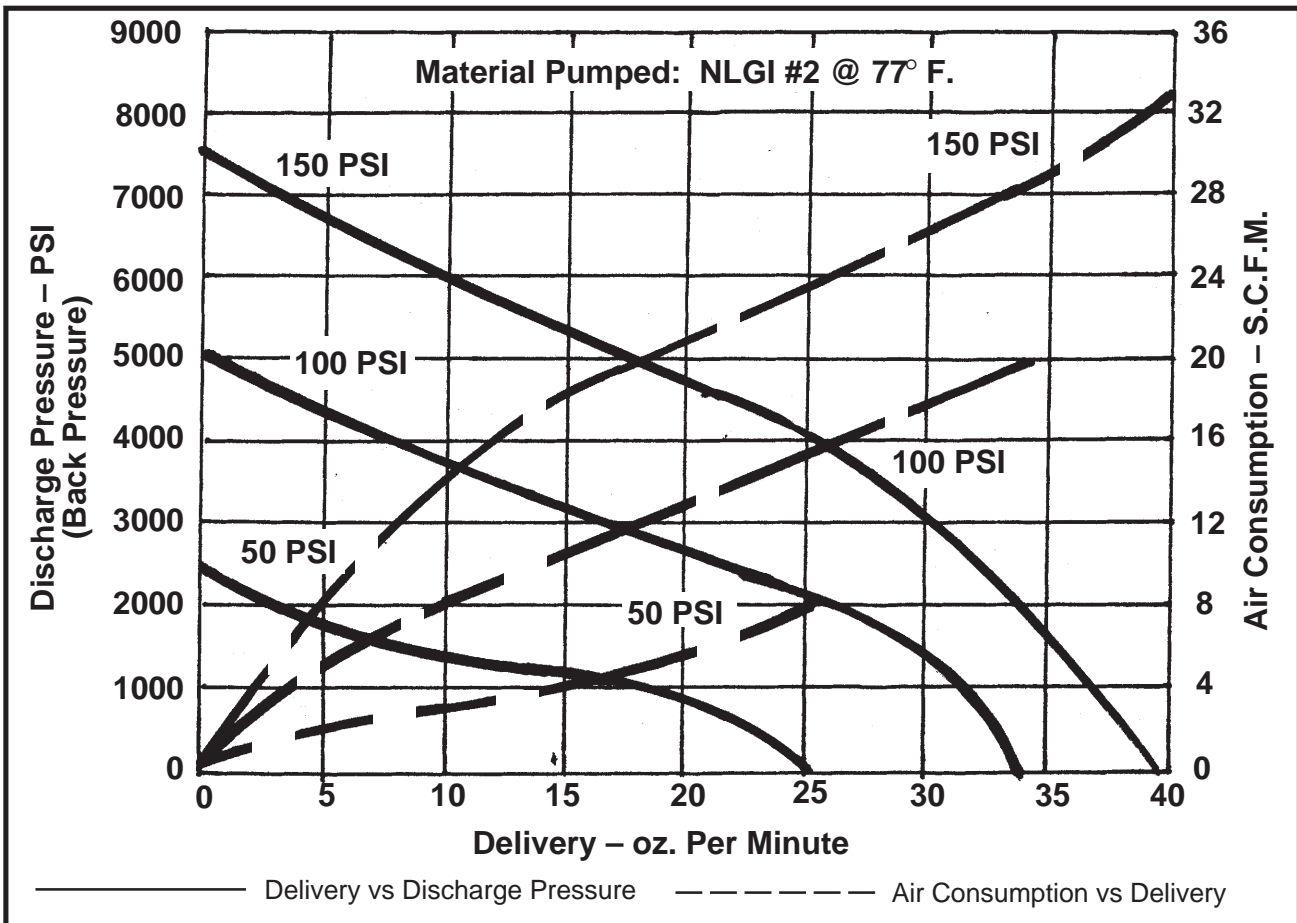
1. Secure bottom flats of Piston 330332 in vise.
2. Drop Ball 171700-12 into hollow Piston body.
3. Set Locking Washer 317536 into grooves atop Piston.
4. Grease Spring 320719 and slide onto Ball Stop 320718 which is still attached to Coupling 320705 and Triangular Guide Washer 321605. Grease will hold Spring in place while assembly is threaded into end of Piston 330332.
5. Screw Coupling on fully by hand, then torque to 19-21 ft. lbs.



**Figure 7: Cutaway of Old Style Pump Tube  
(8559-3 & 8559-4 only)**

**CAUTION:** Do not scratch finish of piston or it will be rendered useless and must be replaced.

6. Bend lugs of Locking Washer 317536 onto flats of Coupling 320705, fixing it into place.
7. Remove assembly from vise.
8. Rod 320704-3 should be threaded into Coupling 320705 and Pin 320975 replaced.
9. Coupling 320974 may then be threaded onto the Rod and then Pin 320975 installed.
10. Primer Rod 330329 should be threaded into bottom of Piston 330332 and secured with Pin 131168.
11. This assembly should be carefully set aside.
12. Seal 172190-9 should now be installed inside Retainer 337391.
  - a. Liberally coat both parts with grease.
  - b. Introduce Seal sideways into Retainer. (Figure 6).
13. Place Bearing 337389 into Retainer, seating against Seal 172190-9.
14. Slip Gasket 330334 over end of Extension 337388 having exposed metal beyond end of threads (See Figure 5 for proper orientation of Extension).
15. Thread Extension 337388 into bottom of Retainer 337391.
16. From top of Retainer, drop Gasket 51017 in place, followed by Bearing 337393 and second Gasket 51017.
17. Screw Tube 337392-2 into place.
18. Take previously assembled Piston and Rod Assembly and grease all leading edges liberally, particularly Piston 330332 (assembly should be held so that Primer Rod 330329 points down).



**Figure 8:** Performance Curves for 50:1 Ratio Pumps

19. Introduce this assembly through top of Tube 337392-2, tapping Coupling 320974 to force assembly past Seal 172190-9.
20. From bottom of Pump Tube Assembly, slide Stop Washer 317549 up over Rod 330329.
21. Liberally grease Seal 172190-10 and install into valve body 337995. (See Figure 5 for proper orientation of seal.)
22. Liberally grease Primer Rod 320329. Slide valve body with seal onto rod. (See Figure 5 for proper orientation of valve.)
23. Replace Gasket 51017 and Valve Seat 320716.
24. Slide Washer 320713 onto Primer Rod 330329 and fasten securely using Elastic Stop Nut 320712. Hold Rod steady with a nail or pin through hole "D" in Rod (Figure 4).
25. Thread Primer Body 324437 onto Extension 337388 and tighten.
26. "O" Ring 171000-20 should be coated with oil and slipped up over Pump Tube Assembly and into place in groove on Primer Body 324437.
27. Air Motor should be placed in vise as shown in Figure 3 and completely assembled.
28. Coat "O" Ring 171013-12 with oil and slide onto Adapter 324805. Thread Adapter into Air Motor Body.
29. Position Gasket 51017 inside Adapter 324805.
30. Slide Follower Tube 324438-2 over top of Pump Tube Assembly.
31. Thread coupling 320974 (attached to Pump Tube Assembly) onto Air Motor Piston Rod. Secure with Pin 320971.
32. Apply "Locquic N" primer to threads of pump tube 337392-2. Allow to dry then coat with Loctite No. 242 Sealant.
33. Thread Pump Tube into Adapter 324805 and tighten using tool or steel bar through slot in Primer Body 324437.

### Major Repair Kit

#### 393514 For Pump Tube Assembly 337384-B1

Part No.	Description	Qty.
51017	Aluminum Gasket, 13/16" I.D. x 15/16" O.D.	4
131168	Pin, 1/2" Long x 1/16" Diameter	1
171000-20	"O" Ring, 1-1/16" I.D. x 1-5/16" O.D.	1
171013-12	"O" Ring, 1-1/8" I.D. x 1-1/4" O.D.	1
171700-12	Steel Ball, 3/16" Diameter	1
■ 172190-9	Seal, 17/32" I.D. x 29/32" O.D.	1
■ 172190-10	Seal, 9/32" I.D. x 17/32" O.D.	1
317536	Locking Washer, 5/16" I.D.	1
317549	Triangular-Stop Washer, 3/8" I.D.	1
320712	Elastic Stop Nut, 12-28	1
320713	Washer, 7/32" I.D. x 13/16" O.D.	1
320716	Valve Seat, 9/32" Thick x 15/16" Diameter	1
320719	Spring, 20 coils, 3/4" Free Length	1
320971	Pin, 5/8" Long x 5/64" Diameter	1
320975	Pin, 5/8" Long x 1/8" Diameter	2
330334	Aluminum Gasket, 1-1/16" I.D. x 1-1/4" O.D.	1
337389	Brass Bearing, 9/16" I.D. x 13/32" Thick	1
337393	Brass Bearing, 9/16" I.D. x 3/8" Thick	1
337995	Valve Body, 11/16" Long x 5/8" Diameter	1

■ These parts can be purchased separately only in packs of five for minor repairs. Order replacement-seal kit 393530-9 or 393530-10 (Five each of 172190-9 or 172190-10 respectively).

### Conversion Kit

#### ■ 393516 For Conversion from Old-Style to New-Style Pumps

Part No.	Description	Qty.
51017	Aluminum Gasket, 13/16" I.D. x 15/16" O.D.	4
131168	Pin, 1/2" Long x 1/16" Diameter	1
171000-20	"O" Ring, 1-1/16" I.D. x 1-5/16" O.D.	1
171013-12	"O" Ring, 1-1/8" I.D. x 1-1/4" O.D.	1
171700-12	Steel Ball, 3/16" Diameter	1
172190-9	Seal, 17/32" I.D. x 29/32" O.D.	1
172190-10	Seal, 9/32" I.D. x 17/32" O.D.	1
317536	Locking Washer, 5/16" I.D.	1
317549	Triangular-Stop Washer, 3/8" I.D.	1
320712	Elastic Stop Nut, 12-28	1
320713	Washer, 7/32" I.D. x 13/16" O.D.	1
320716	Valve Seat, 9/32" Thick x 15/16" Diameter	1
320719	Spring, 20 coils, 3/4" Free Length	1
320971	Pin, 5/8" Long x 5/64" Diameter	1
320975	Pin, 5/8" Long x 1/8" Diameter	2
330329	Primer Rod, 3-7/8" Long x 1/4" Diameter	1
330332	Piston, 4-1/8" Long x 9/16" Diameter	1
330334	Aluminum Gasket, 1-1/16" I.D. x 1-1/4" O.D.	1
337388	Extension, 3-5/32" Long x 9/16" Diameter	1
337389	Brass Bearing, 9/16" I.D. x 13/32" Thick	1
337391	Retainer, 2-3/4" Long	1
337393	Brass Bearing, 9/16" I.D. x 3/8" Thick	1
337995	Valve Body, 11/16" Long x 5/8" Diameter	1

■ Upper Pump Tube (337392-2) must also be purchased.

#### PARTS LIST - Models 8559-B & 8559-5 High-Pressure Pumps

Part No.	Description	Qty.
● 51017	Aluminum Gasket, 13/16" I.D. x 15/16" O.D.	1
170292	Pan-Head Machine Screw, 8-32 x 1-1/4" Long	1
● 171013-12	"O" Ring, 1-1/8" I.D. x 1-1/4" O.D.	1
315669	Angle body, 3/8" PT (8559-5 only)	1
317803-3	Hose Assembly, 3 Feet Long - 1/4" NPTF (8559-5 only)	1
317876-5	Hose Unit, 5 Ft. Long - 3/8" NPTF (8559-5 only)	1
● 320971	Pin, 5/64" Diameter x 5/8" Long	1
321085	Muffler	1
321155	Female Union, 1/2" NPTF x 3/8" NPTF (8559-5 only)	1
■ 324300-5	Air Motor	1
324438-2	Follower Tube, 34-11/16" Long	1
324805	Adapter, 1-7/8" Long	1
326750	Bung Adapter	1
328030	Female Air Coupler, 1/4" NPTF	1
328034	Male Adapter, 1/4" NPTF	1
✚ * 337384-B1	Pump-Tube Assembly	1

- Repair Kit Part
- \* See separate parts list
- See parts list in SER 324300-5
- ✚ Not Available as a separate purchased part

**PARTS LIST - Pump Tube Assembly 337384-B1**

Part No.	Description	Qty.
● 51017	Aluminum Gasket, 13/16" I.D. x 15/16" O.D.	3
● 131168	Pin, 1/2" Long x 1/16" Diameter	1
● 171000-20	"O" Ring, 1-1/16" I.D. x 1-5/16" O.D.	1
● 171700-12	Steel Ball, 3/16" Diameter	1
■ ● 172190-9	Seal, 17/32" I.D. x 29/32" O.D.	1
■ ● 172190-10	Seal, 9/32" I.D. x 17/32" O.D.	1
● 317536	Locking Washer, 5/16" I.D.	1
● 317549	Triangular-Stop Washer, 3/8" I.D.	1
● 320704-3	Rod, 27-1/16" Long x 7/16" O.D. (Steel)	1
● 320705	Coupling, 5/16-24 UNF-2A (m)	1
● 320712	Elastic Stop Nut, 12-28	1
● 320713	Washer, 7/32" I.D. x 13/16" O.D.	1
● 320716	Valve Seat, 9/32" Thick x 15/16" Diameter	1
● 320718	Ball Stop, 2-3/4" Long	1
● 320719	Spring, 20 coils, 3/4" Free Length	1
● 320974	Coupling, 1-5/8" Long (Nickel-Plated Steel)	1
● 320975	Pin, 5/8" Long x 1/8" Diameter	2
● 321605	Triangular-Guide Washer, 3/32" I.D.	1
● 324437	Primer Body, 3-1/4" Long	1
● 330329	Primer Rod, 3-7/8" Long x 1/4" Diameter	1
● 330332	Piston, 4-1/8" Long x 9/16" Diameter	1
+ ● 330334	Aluminum Gasket, 1-1/16" I.D. x 1-1/4" O.D.	1
● 337388	Extension, 3-5/32" Long x 9/16" Diameter	1
● 337389	Brass Bearing, 9/16" I.D. x 13/32" Thick	1
● 337391	Retainer, 2-3/4" Long	1
● 337392-2	Upper Pump Tube, 30-7/16" Long	1
● 337393	Brass Bearing, 9/16" I.D. x 3/8" Thick	1
● 337995	Valve Body, 11/16" Long x 5/8" Diameter	1

● Part of Repair Kit and/or Conversion Kit

+ Not Available as a Separate Purchased Part

■ These parts can be purchased separately only in packs of five for minor repairs. Order replacement-seal kit 393530-9 or 393530-10 (Five each of 172190-9 or 172190-10 respectively).

**NOTE:** The parts listed in this instruction sheet are for reference identification in the instructions and illustrations. Some of them are not available as separate parts and these are noted in the parts list. Standard items such as nuts, bolts, etc. should be purchased at a hardware store. Refer to the current parts price list and bulletins before ordering parts, and always give the part number, quantity, description and model where used when ordering parts. Parts availability and prices are subject to change without notice.

**CHANGES SINCE LAST PRINTING**

Initial Release: December 1994